

Motorola

HOME RADIO

MODELS
52C6A
52C8A

CHASSIS
HS-375

S E R V I C E M A N U A L

GENERAL INFORMATION

TYPE - AC table model superheterodyne with appliance outlet and self-contained electric clock for controlling automatically the operation of the radio and the outlet.

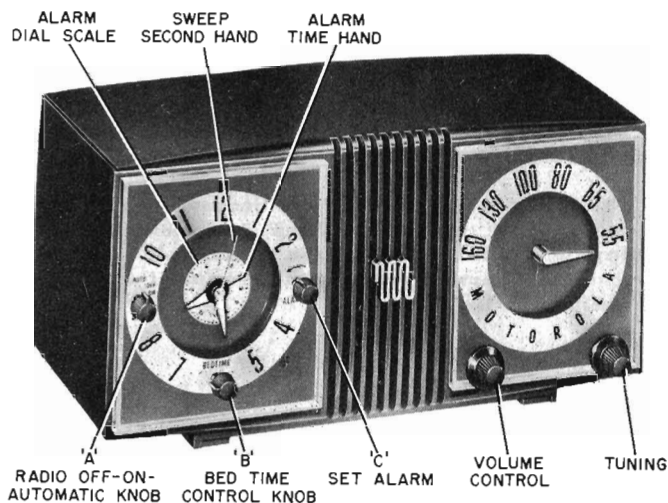
RECEIVER MODELS	Model	Color
	52C6A	Walnut
	52C8A	Green

TUNING RANGE - 535 to 1620 Kc IF - 455 Kc

TUBE COMPLEMENT - Type	Function
12BE6	Converter
12BD6	1F Amplifier
12AT6	Det, AVC & AF Amp
50C5	Power Amplifier
35W4	Rectifier

POWER SUPPLY - Operates from 117 volts, 60 cycle, alternating current only. Power consumption 37 watts.

APPLIANCE OUTLET - For use with 117 volt AC appliances only, rated at 1100 watts or less.



CLOCK - Telechron self-starting electric clock, with Motorola face and hands.

OPERATING INSTRUCTIONS

The locations and functions of the clock and radio controls are shown in the photo above.

NORMAL RADIO OPERATION

Knob "A" on the clock turns the radio on or off. Select stations with the TUNING knob, and adjust volume with the VOLUME control.

A built-in loop antenna eliminates the need for an outside antenna in most locations. When receiving a weak station, rotate the receiver slightly for best signal strength. If additional pick-up is necessary, connect an external antenna to the radio by following the instructions printed on the rear panel. CAUTION: Never connect the radio chassis to a water pipe, radiator, or other ground.

CLOCK OPERATION

The clock will start as soon as the receiver is plugged into an electrical outlet. To set the hands to the correct time, rotate the TIME SET knob (on the rear of the radio)

in a clockwise direction only.

ALARM OPERATION

To set the alarm, pull out knob "C" and rotate it in a counterclockwise direction to the desired time on the alarm dial scale. The alarm will ring for one hour, or until knob "C" is pushed in. The alarm function is completely independent of the other controls on the clock.

APPLIANCE OUTLET

To control an electrical appliance automatically, plug it into the receptacle on the back of the radio. See Figure 1. It will then be turned on or off simultaneously with the radio. CAUTION: Note that the rating of the outlet is 1100 watts or less.

If radio reception is not desired when operating the appliance, rotate the radio volume control to the minimum volume position.

LIST APPLICABLE BULLETINS & SUPPLEMENTS HERE:

MOTOROLA, INC. 4545 AUGUSTA BLVD. CHICAGO 51, ILLINOIS

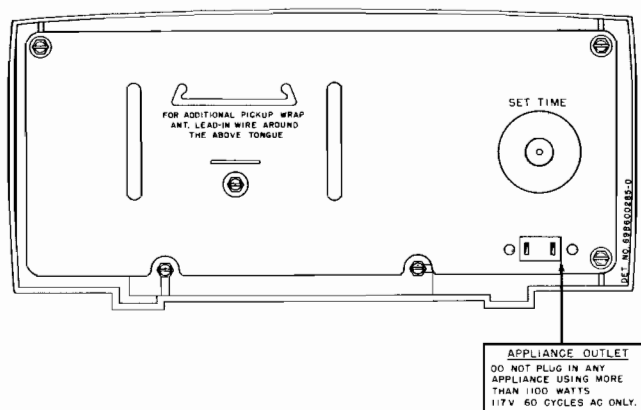


FIGURE 1. REAR VIEW

BEDTIME CONTROL

The BEDTIME control will turn the radio and appliance off after any pre-set interval of time up to one hour.

Turn knob "A" to the "OFF" position and rotate knob "B" to any period of time between 0 and 60 minutes. The radio and appliance will be turned off automatically after the proper time has elapsed, and they will remain off until turned on again manually.

AUTOMATIC RADIO OPERATION

The clock controls may be pre-set to turn the radio on automatically at any time up to twelve hours in advance.

If an appliance is plugged into the receptacle on the back of the receiver, it will be turned on automatically, along with the radio.

Pull out knob "C", rotate it counterclockwise to the desired time on the alarm dial scale, and push the knob back in. Rotate knob "A" first to the "OFF" and then to the "AUTO" position. At the pre-set time, the radio will come on and will continue to play until turned off manually. The alarm will ring also if the knob "C" is left pulled out. The radio will come on first and, after an interval of about ten minutes, the alarm will ring.

BEDTIME AND AUTOMATIC OPERATIONS COMBINED

By combining the operations in the two sections above, the radio may be turned off automatically and on again automatically.

When setting the BEDTIME control, rotate knob "A" to the "AUTO" position instead of "OFF". IMPORTANT: It is necessary to turn knob "A" first to the "OFF" position before proceeding to "AUTO", otherwise the radio may not shut off.

ALIGNMENT

NOTE: It is recommended that an isolation transformer be placed between the power line and the receiver to avoid hum and electrical shocks. If an isolation transformer is not available, connect the low side of the signal generator to B-through a .1 mf capacitor.

1. Connect a low range output meter across the speaker voice coil.
2. Connect the low side of the signal generator to B-.
3. Set the signal generator for 400 cycle, 30% modulation.
4. Turn the receiver volume control to maximum.
5. Use a small fibre screwdriver for aligning the IF and diode transformers.
6. As stages are brought into alignment, reduce the signal generator output to a level which produces less than .40 volts (.05 watt) across the voice coil to avoid overloading the receiver.
7. See Figure 2 for adjustment locations and the following chart for procedure.

ALIGNMENT CHART

STEP	DUMMY ANTENNA	GENERATOR CONNECTION	GENERATOR FREQUENCY	GANG SETTING	ADJUST	REMARKS
IF ALIGNMENT						
1.	.1 mf	Grid of conv. (pin 7, 12BE6)	455 Kc	Fully open	1, 2, 3 & 4 (IF cores)	Adjust for maximum.
RF ALIGNMENT						
2.	-	-	-	Fully closed	-	Set pointer to horizontal position.
3.	.1 mf	Grid of conv. (pin 7, 12BE6)	1620 Kc	Fully open	5 (Osc)	Adjust for maximum.
4.	-	Radiation loop*	1400 Kc	Tune for max	6 (Ant)	Adjust for maximum.

*Connect generator output across 5" diameter, 5 turn loop and couple inductively to receiver loop. Keep loops at least 12" apart.

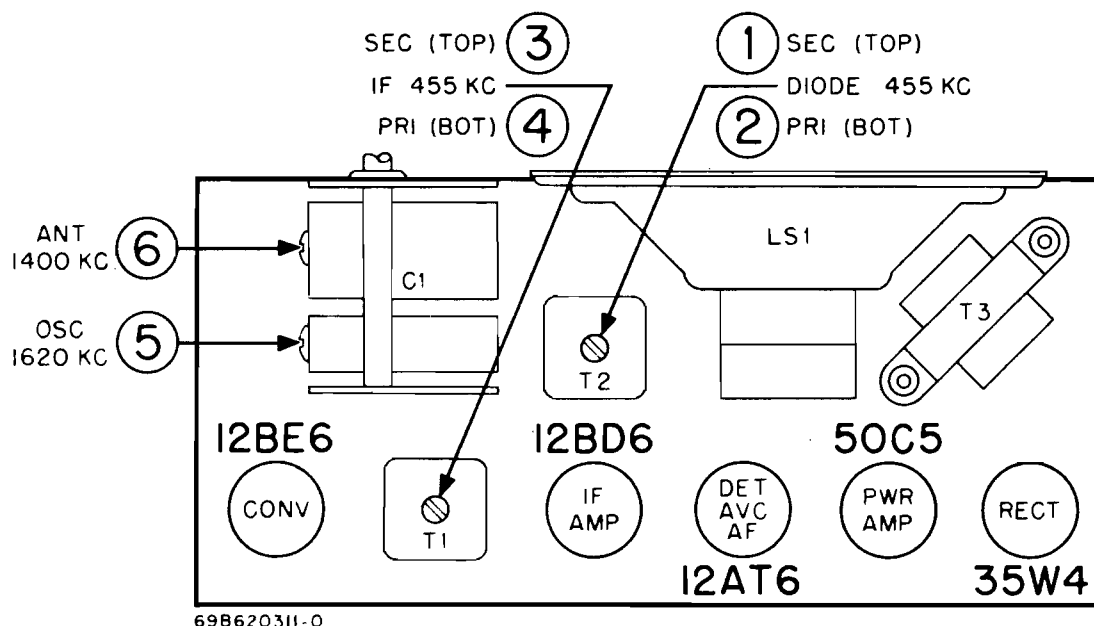


FIGURE 2. TUBE AND TRIMMER LOCATION

SERVICE NOTES

TO REMOVE RADIO CHASSIS FROM CABINET

1. Pull off the two radio control knobs.
2. Remove the three hex head screws which hold the loop to the cabinet.
3. From the back of the cabinet, remove the two hex head screws at the rear edge of the radio chassis.
4. Slide the radio chassis and loop from the cabinet.
5. Disconnect the power leads to the radio chassis and to the appliance receptacle.

TO SYNCHRONIZE HANDS AND ALARM

If the hands have been moved accidentally, it will be necessary to resynchronize them with the alarm dial, as outlined below.

1. Turn the radio control shaft for "AUTO" position.
2. Slowly rotate the time set shaft clockwise until the switch contacts behind the radio control shaft close.
3. Set all the hands to indicate 12 o'clock. Set the figure "12" on the alarm dial to index with the small pointer on the hour hand.
4. Check the automatic operation to be sure the switch contacts close at the time indicated on the alarm dial.

CLOCK REPAIR INFORMATION

Telechron timers can be repaired at Authorized Tele-

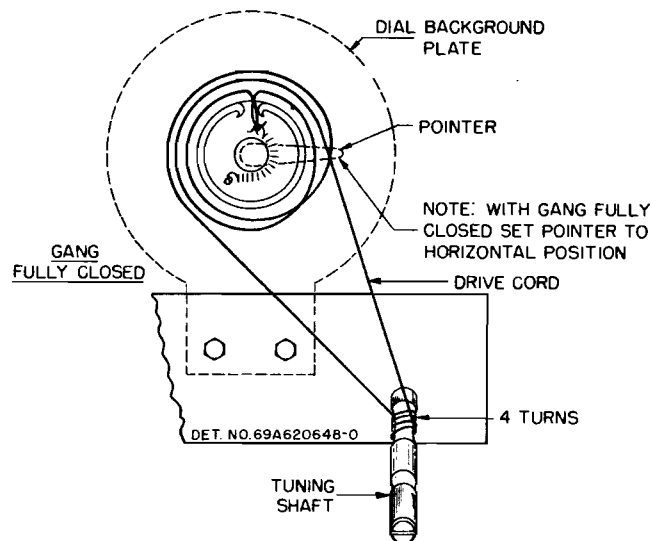


FIGURE 3. STRING DRIVE DETAIL

chron Service Stations or at the Product Service Department, Telechron Department, Ashland, Mass. Consult your Motorola Distributor for the name of the nearest Telechron Service Station, or refer to the classified section of the telephone directory in large cities.

The timer should be removed from the radio cabinet and packed carefully in order that no further damage results during shipment.

An acknowledgement with a quotation and a request for payment will be sent to the dealer before the repair is made. The timer will be returned to the dealer on receipt of payment. If the timer is within warranty, repairs will be made on a no-charge basis.

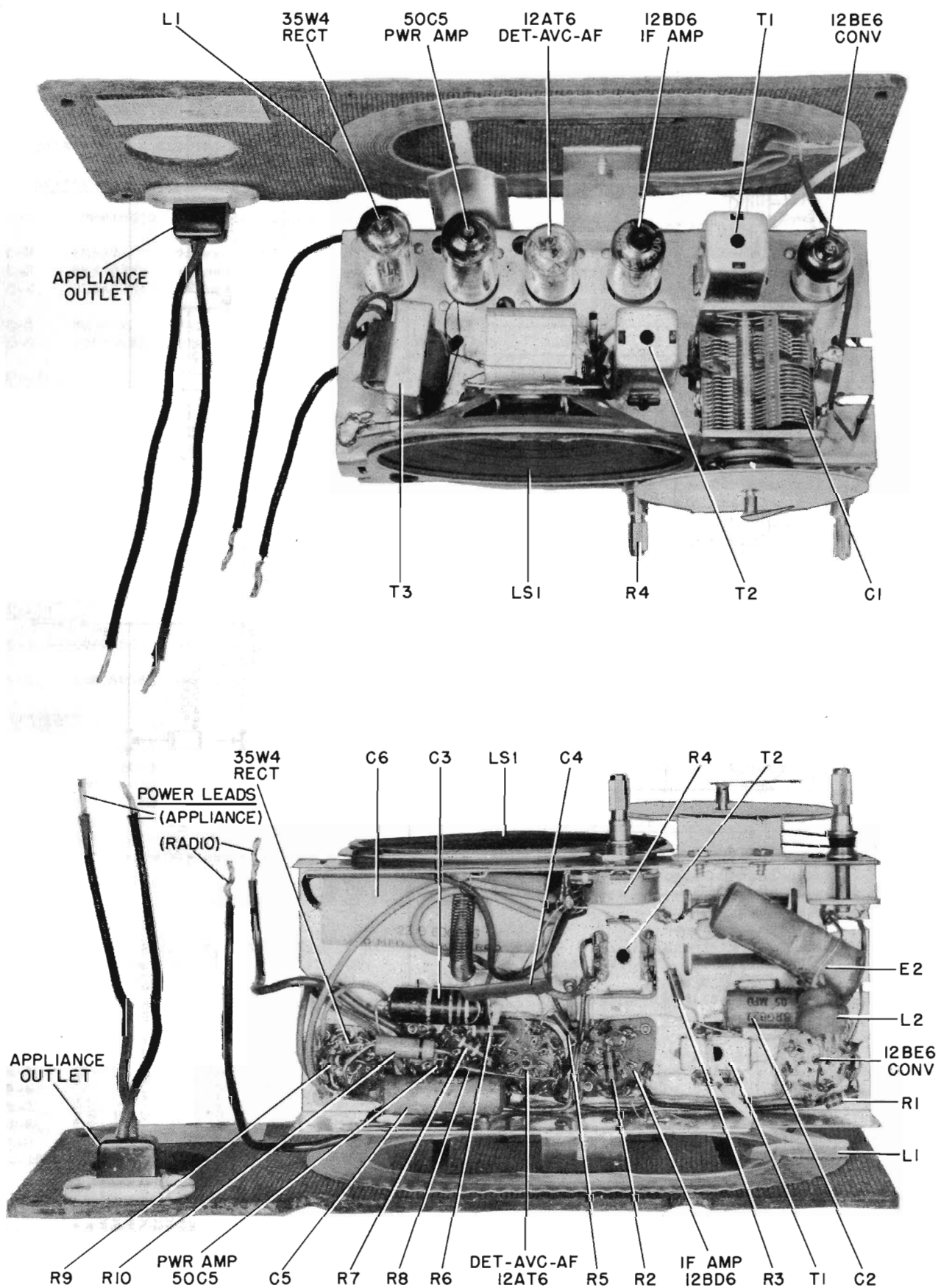


FIGURE 4. PARTS LOCATION

REPLACEMENT PARTS LIST

NOTE: When ordering parts, specify model number of set in addition to part number and description of part.

Ref. No.	Part Number	Description	List Price	Ref. No.	Part Number	Description	List Price
CHASSIS PARTS - ELECTRICAL				T-3	25B478121	Output transformer.....	1.45
<u>Capacitors</u>				Part Number	Description	List Price	
C-1	19B610820	Variable: 2-gang; with pulley.....	2.85	CHASSIS PARTS - MECHANICAL			
C-2	8R9821	Paper: .05 mf 200V.....	.25	7A478118	Bracket, loop mtg.....	.05	
C-3	8K490232	Molded paper: 47,000 mmf 400V	.30	7A77337	Bracket, tuning shaft.....	.05	
C-4	21B482847	Ceramic, multiple: 2000-220-220-5000 mmf/400V.....	.65	42K601734	Clamp, line cord (on clock).....	.05	
C-5	8R9802	Paper: .02 mf 400V.....	.20	42B485548	Clip, IF trans mtg.....doz	.35	
C-6	23B600855	Electrolytic: 50-30 mf/150V.	1.60	30K600980	Cord, line: with plug; 6 ft long..	1.05	
<u>Clock</u>				5A484268	Grommet, speaker mtg: rubber...doz	.20	
E-1	59K621516	Electric Clock Assembly: Telechron; with hands; less line cord.....	11.95	14A478119	Insulator, loop brkt mtg: fibre.....doz	.15	
NOTE: SEE SERVICE NOTES FOR CLOCK REPAIR INFORMATION.				2S7051	Nut, hex palnut: 3/8-32 x 9/16 (volume control mtg).....doz	.15	
<u>Choke-Capacitor</u>				35A601669	Pad, cushion: sponge rubber (speaker cushion).....	.10	
E-2	8A690487	Choke and .15 mf paper capacitor.....	.30	64K621523	Plate, radio dial background: green.....	.45	
<u>Coils</u>				52A610809	Pointer, radio dial: light green..	.25	
L-1	1V621531	Antenna Loop, Panel, and Receptacle Assembly: complete	1.95*	9A601018	Receptacle, appliance (on loop panel).....	.80	
L-2	24B680364	Oscillator coil.....	.90	1A610808	Shaft, tuning: with pulley.....	.15	
<u>Speakers</u>				43A600095	Sleeve, paper (on pointer shaft).....per/c	.50	
LS-1	50C600017	Speaker: 4" PM; 3.2 ohm VC..	3.90* exch 2.95	9R119819	Socket, tube: miniature; 7-prong; with dummy lug and center shield; wafer type.....	.15	
or	50C600857			41A73996	Spring, tension (lytic mtg)....doz	.60	
or	50B610052			41A73619	Spring, tension (gang drive cord).....doz	.40	
or	50C610506			4A70015	Washer, "C" (tuning shaft mtg)per/c	.50	
or	50K610557			14A11493	Washer, shoulder: fibre (loop bracket mtg).....doz	.35	
or	50C620204			CABINET PARTS			
<u>Resistors</u>				1V622048	Cabinet, table model: walnut; less overlays and clock and radio crystals; with medallion (52C6A)	5.25	
Note: All resistors are insulated carbon type unless otherwise specified.				1V622103	Cabinet, table model: green; less overlays and clock and radio crystals; with medallion (52C8A)	6.65	
R-1	6R6028	22,000 20% 1/2W.....doz	1.20	28A600064	Connector, wire (connects clock & radio power leads).....	.05	
R-2	6R6018	100 20% 1/2W.....doz	1.20	61C621528	Crystal, plastic (clock face cover).....	1.45	
R-3	6R3927	2.2 meg 20% 1/2W.....doz	1.20	61K621529	Crystal, plastic (radio dial cover).....	1.50	
R-4	18A600018	Volume control: 1 meg.....	.80	14B611368	Insulator, clock: fibre (over back of clock).....	.15	
R-5	6R2109	10 meg 20% 1/2W.....doz	1.20	36K621520	Knob, clock control: black.....	.20	
R-6	6R6032	470,000 20% 1/2W.....doz	1.20	36B610815	Knob, radio control: black.....	.20	
R-7	6R6032	470,000 20% 1/2W.....doz	1.20	13A792195	Medallion (on spkr grille).....	.55	
R-8	6R3992	150 20% 1/2W.....doz	1.20	13B621526	Overlay, clock background: with numbers.....	.95	
R-9	6R5683	27 10% 1/2W.....doz	1.20	13C621527	Overlay, radio background: with numbers.....	.95	
R-10	6R3953	1000 20% 1W.....	.20	2S490840	Speednut: for 1/16" stud (medallion mtg).....doz	.15	
<u>Transformers</u>							
T-1,2	24C485553	IF and diode transformer: 455 Kc; complete.....	1.45				

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

*Plus Federal Excise Tax At Current Rate